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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,571

07/22/2003

Masato Furuya

25581

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20529

7590

10/05/2005

NATH & ASSOCIATES

1030 15th STREET, NW

6TH FLOOR

WASHINGTON, DC 20005

EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/623,571		FURUYA, MASATO	
	<b>Examiner</b>		<b>Art Unit</b>	
	Seokyun Moon		2675	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondoh (US Pub. No. 2002/0158831 A1, herein after referred to as "Kondoh") in view of Edwards et al. (US Pub. No. 2003/0016202 A1, herein after referred to as "Edward").

Kondoh includes a controller (control device) configured to optionally set the ratio of a display signal period (selection period and non-selection period) to a reset period, the display signal period being a period to write and hold display signals in those of the pixels contained in a selected row, the reset period being a period to write and hold a reset voltage in the pixels in the selected row (Paragraph [0009]: Lines 6-15).

Kondoh does not teach the active matrix LCD having column electrodes, row electrodes, a column driver, a row driver, and pixels.

However, Edward (Fig. 1) discloses an active matrix LCD (25) having column electrodes (16) for display signals (data signals) and row electrodes (14) for scanning (selection), the row electrodes being orthogonal to the column electrodes, a column driver (35) to sequentially supply display signals to the column electrodes, a row driver (30) to sequentially supply row select pulses to the row electrodes, and pixels (10) arranged in a matrix at intersections of the column and row electrodes, respectively, the

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column driver sequentially supplying, in each horizontal scan period (row address period), display signals to the column electrodes so that the display signals are written in a row of the pixels the row driver has selected for the horizontal scan period (Paragraph [0041] and [0042]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kondoh the structure arrangement of the active matrix LCD as taught by Edward so as to provide high speed driving and low production cost in the active matrix LCD configuration.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondoh as modified as applied to claim 1 above, and further in view of Nomoto (US Patent No. 5,818,526, herein after referred to as "Nomoto").

Kondoh as modified discloses the active matrix LCD of claim 1, wherein the controller comprises a row selector configured to sequentially provide, in cooperation with the row driver, row select pulses to select the row electrodes one after another for each horizontal scan period.

Kondoh (Fig. 1) as modified teaches a row selector configured to sequentially provide, in cooperation with the row driver (35), row select pulses to select the row electrodes (14) one after another for each horizontal scan period (line period) including a first period (Se and NSe) during which the row driver provides the column electrodes with the display signals having image information and a second period (Rs) during which the output unit provides the column electrodes with the reset voltage such that an

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absolute value of voltage accumulated in each pixel due to the display signal is below a predetermined value (threshold value) (Kondoh: Paragraph [0052] Lines 23-29).

Kondoh as modified further discloses a column driver for turning on the switches and sending data signals to selected column electrodes.

Kondoh as modified does not disclose a level setter configured to partly or wholly set a horizontal blanking period of the horizontal scan period as a period to provide the reset voltage.

However, Nomoto (Fig. 8) teaches a level setter (horizontal scan circuit and vertical scan circuit) configured to partly or wholly set a horizontal blanking period of the horizontal scan period as a period to provide the reset voltage (Page 3: Lines 22-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include Nomoto's level setter in Kondoh as modified to prevent the period of providing display signals from being a period of providing the reset voltage, thus preventing the destruction of display signals or voltages on the column electrodes (Nomoto: Column 3 Lines 22-30).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

09/23/2005  
SM

  
KENT CHANG  
PRIMARY EXAMINER